



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,520	08/13/2001	Ryota Kato	108072.01	6869
25944	7590	05/19/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			PHAM, HAI CHI	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/927,520

Applicant(s)

KATO, RYOTA

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 5-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413).  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai (U.S. 5,663,558) in view of Ishibe (U.S. 6,317,244).

Sakai discloses an optical beam scanning unit comprising a laser generation unit (20) having a semiconductor laser light source (not shown), a deflector (polygon mirror 27) that deflects the laser beam emitted from the laser light source, a first converging unit (f- $\theta$  lens 21) that converges, at least in the main scanning direction, the laser beam deflected by the deflector, a photosensitive member (photosensitive drum 7) across which the laser beam converged by the first converging unit is scanned, a detector (synchronism detector or beam detection sensor 26) (Figs. 5-8) that receives and detects the laser beam converged by the first converging unit to provide scan start timing of the laser beam, a second converging unit (collimator lens not shown) (col. 4, lines 48-51) that converges the laser beam emitted from each of the plurality of laser light sources onto the deflector, a slit member (slit 44) disposed on a position optically equal to a scanned position of the photosensitive member (col. 7, lines 20-35) (col. 10, lines 37-40), and a third converging unit (condenser lens 36) between the slit member and the detector that

Art Unit: 2861

converges, at least in the sub-scanning direction, the laser beam converged by the first converging unit, on the detector, wherein a lateral magnification in the sub-scanning direction in an optical path from the slit to the detector is less than one, wherein the lateral magnification is represented by  $L2/L1$ , where  $L1$  is a distance from the slit member to the third converging unit and  $L2$  is a distance from the third converging unit to the detector (the condenser lens 36 is disposed closer to the beam detection sensor 26 such that the distance from the slit 44 to the condenser lens is greater than that from the condenser lens to the beam detection sensor) (Fig. 5).

Sakai fails to teach the laser generation unit (20) having a plurality of semiconductor laser light sources.

Ishibe discloses an optical scanning apparatus having a similar configuration and wherein the light source can be either a single semiconductor laser (Fig. 9) or a plurality of light emitting points (Fig. 12) (col. 6, lines 18-28) (col. 9, lines 19-40).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a plurality of light sources to the device of Sakai as taught by Ishibe. The motivation for doing so would have been to increase the speed of the printing system.

Sakai further teaches a mirror (beam detection mirror 25) being disposed between the first converging unit (f- $\theta$  lens 21) and the photosensitive member (7) so as to reflect the laser beam to the beam BD slit (44).

### ***Allowable Subject Matter***

3. Claims 8-14 are allowed.

***Response to Arguments***

4. Applicant's arguments with respect to claims 5-7 have been considered but are moot in view of the new grounds of rejection.

***Response to Arguments***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

May 13, 2006